



U.S. ENVIRONMENTAL PROTECTION AGENCY

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Contract No. 68-01-7367

TECHNICAL
ASSISTANCE
TEAM

141553

REMOVAL ACTION PLAN

DEAD CREEK - SITE G

SAUGET, ILLINOIS



Region V

ROY F. WESTON, INC.

Spill Prevention & Emergency Response Division

In Association with ICF Technology Inc., C.C. Johnson & Associates, Inc.,
Resource Applications, Inc., Geo/Resource Consultants, Inc., and
Environmental Toxicology International, Inc.



WESTON
MANAGERS DESIGNERS CONSULTANTS

REMOVAL ACTION PLAN

DEAD CREEK - SITE G

SAUGET, ILLINOIS

Prepared For:

**U.S. Environmental Protection Agency
Region V
230 South Dearborn Street
Chicago, Illinois**

CONTRACT NO. 68-01-7367

TAT-05-N-00012

TDD NO. 5-8703-11

Prepared By:

**WESTON-SPER
Technical Assistance Team
Region V**

August, 1987



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TECHNICAL ASSISTANCE TEAM FOR EMERGENCY RESPONSE REMOVAL AND PREVENTION
EPA CONTRACT 68-01-7367

Mr. Michael Strimbu
Deputy Project Officer
Emergency Response Section
Western Response Unit
U.S. Environmental Protection Agency
11th Floor
230 South Dearborn Street
Chicago, Illinois 60604

August 11, 1987

TAT-05-G2-00117

Re: Dead Creek - Site G, Sauget, Illinois
TDD# 5-8703-11

Dear Mr. Strimbu:

On March 26, 1987, the U.S. Environmental Protection Agency (U.S. EPA) tasked the Technical Assistance Team (TAT) to conduct a site assessment (SA) at the Dead Creek - Site G area in Sauget, Illinois. The TAT was later requested by On-Scene Coordinator (OSC), Sheri Kamke to develop a removal action plan (RAP) for the site.


The TAT provided a draft copy of the cost estimates to the OSC on April 6, 1987. The attached SA/RAP presents costing for fencing, \$28,000.00, and capping of the site, \$557,000.00.

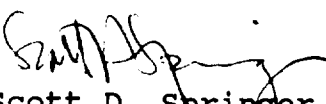
In early May, 1987, Monsanto, a potentially responsible party (PRP) indicated that they would fence the site to U.S. EPA specifications. TAT monitored the construction of the fence which was completed on May 13, 1987.

Should you have any questions or require additional information, please feel free to contact us.

Very truly yours,

ROY F. WESTON, INC.


Jeff Binkley
Environmental Scientist


Scott D. Springer
Technical Assistance Team
Leader, Region V

JB/ljs
Attachment

Roy F. Weston, Inc.

SPILL PREVENTION & EMERGENCY RESPONSE DIVISION

In Association with ICF Technology Inc., C.C. Johnson & Associates, Inc., Resource Applications, Inc.,
Geo/Resource Consultants, Inc., and Environmental Toxicology International, Inc.

1.0 SITE DESCRIPTION

Dead Creek - Site G (herein referred to as Site G) is an abandoned surface/subsurface disposal area covering approximately 4.5 acres in Sauget, Illinois (Figure 1).

Site G is located in a heavy industrial area with the nearest residential area approximately 1/2 mile to the south. The site is bordered on the east by Dead Creek; on the north by Queeny Avenue; on the west by Wiese Engineering Company; and, on the south by an agricultural field.

2.0 SITE BACKGROUND

Information concerning operators or owners of Site G at the time of disposal was unavailable. However, based on examination of historical aerial photographs, it has been estimated that excavation at Site G began sometime prior to 1950 and disposal operations were initiated shortly thereafter. The aerial photographs indicate that disposal activities continued through the early 1970's (Personal Communication, Dan Sewel, Ecology and Environment (E&E), 1987).

In 1980-81, Site G was studied by the Illinois Environmental Protection Agency (IEPA) as part of an area-wide study to determine the source of contamination found in Dead Creek. During this study IEPA collected samples of subsurface soils and ground water. Analytical results of ground water samples indicated elevated levels of organic contaminants, PCBs, and heavy metals. Analytical data of the soil samples indicated the presence of elevated levels of metals, phosphorous and PCBs.

In December, 1985, Technos, Inc. of Miami, Florida, was contracted by E&E to conduct a geophysical investigation including magnetometry and electromagnetics. Anomalies were detected by both methods in several areas of the site indicating that a significant quantity of buried metals existed at the site.

E&E is currently conducting a Remedial Investigation/Feasibility Study (RI/FS) for the IEPA of an area surrounding Dead Creek. IEPA's goal is to generate data which will be used to increase the site's Hazardous Ranking Score. Soil samples collected at Site G during early stages of the RI/FS indicated elevated levels of three contaminants. Pentachlorophenol (PCP) was detected in concentrations as high as 0.14%. Nine surface soil samples contained PCBs at concentrations as high as 7.4%, and three surface soil samples showed octachlorodibenzo-dioxin present in concentrations up to 130 ppm. In March, 1987, the U.S. EPA was notified of the elevated levels of toxic materials at Site G which prompted the subsequent site assessment (SA).

3.0 SITE ASSESSMENT

On March 4, 1987, Technical Assistance Team (TAT) members Curt Michols and Jeff Binkley accompanied U.S. EPA On-Scene Coordinator (OSC) Nick Longo on a SA at the Site G area. Upon arrival at the site, the TAT members and OSC met with Dan Sewel and Kevin Phillips of E&E, and Bob Johnson (IEPA consultant). TAT, OSC, IEPA, and E&E representatives proceeded to walk around the site. The TAT observed discarded construction materials strewn across a large portion of the site. In the east central and northeast areas of the site were several small pits containing oily and tar-like waste. The pits also contained corroded drums. The western portion of the site had a mound which also contained corroded drums. A depression just south of the mound appeared to receive the runoff of a large portion of the site. The northern side of the site, which borders Queeny Avenue, appears to be subject to random dumping of various types of non-hazardous materials. It was noted that the site was not fenced and was easily accessible (See Attachment A - Photographs, and Figure 2).

Upon completion of the initial site surveillance, the TAT proceeded to collect two surface soil samples to be analyzed for PCP and PCBs (Figure 2 sample locations).

The samples were delivered to Aqualab in Bartlett, Illinois, on March 20, 1987, for analysis under TAT Special Project TDD# 5-8703-L2. The hard copy of the results were received from Aqualab on April 6, 1987, and are summarized in Table 1. These results further document the presence of PCBs as reported by the IEPA. Both samples, S-41 and S-42, indicate elevated levels of PCBs with concentrations of 70 ppm and 25 ppm respectively. Regulations promulgated under the Toxic Substances Control Act set forth specific management/disposal requirements for materials having PCB concentrations of greater than 50 ppm. PCP was not detected in either sample, however, higher than normal detection limits were encountered due to matrix interference.

4.0 THREATS TO HUMAN HEALTH AND THE ENVIRONMENT

Based upon the sample results and the visual observations by the TAT, in addition to background information, Site G was found to pose the following threats to human health and the environment as delineated within Section 300.6 (b) (2) of the National Contingency Plan:

- o actual or potential exposure to hazardous substances or pollutants or contaminants by nearby populations, animals, or food chain;
- o actual or potential contamination of drinking water supplies or sensitive ecosystems; and,

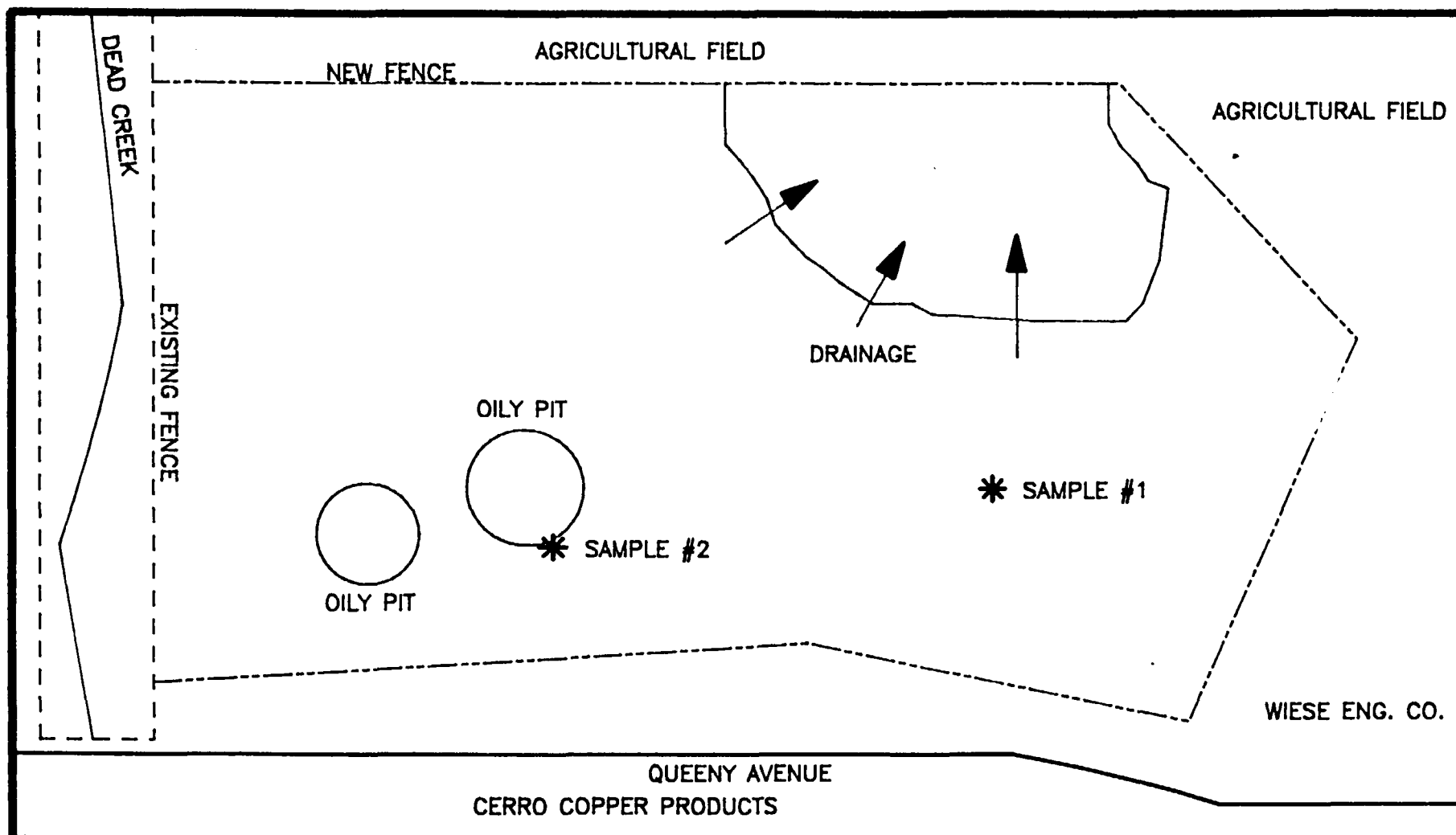


FIGURE 2
SITE MAP
DEAD CREEK, SITE-G
SAUGET, ILLINOIS

NO SCALE



DRAWN <i>J. Binkley</i>	DATE 8/12/87	PCS # 1057
APPROVED <i>SOS</i>	TDD # 5-8703-11	

TABLE 1
 Analytical Results of TAT Sampling
 at Dead Creek - Site G Area
 Sauget, Illinois¹
 March 4, 1987
 (All results in ppm)

Sample # -----	Description -----	Contaminant -----	Concentration -----
S-41	Dark soil, with yellowish gray color	PCP	<10
S-41		PCB	70
S-42	Oily tar, gummy material	PCP	<2600*
S-42		PCB	25

* High detection limit due to matrix interference.
¹Samples analyzed by Aqualab, Bartlett, Illinois.

- o high levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface, that may migrate.

The following sub-sections will discuss these threats as they exist at Site G.

4.1.1 Potential Exposure To Hazardous Substances

Site investigations have revealed the presence of highly contaminated soils and oily pits at this site. High levels of PCBs and PCP have been documented in surface soils. Also, there are exposed corroded drums which would be readily accessible to people or wildlife. The possibility of off-site pollutant migration via surface runoff would expand the area of potential exposure. No restriction of access to the area is in place, increasing the potential for direct contact with the substances.

4.1.2 Actual or Potential Contamination of Drinking Water Supplies

IEPA conducted a hydrogeologic study at the site during the 1980-81 Dead Creek investigation. Samples documented the presence of high levels of organic contaminants, PCBs, and heavy metals. Although no off-site ground water contamination has been documented, the potential of such contamination is significant.

4.1.3 Potential Migration of Contamination

IEPA data has documented that surface soil at Site G is contaminated with high levels of heavy metals, phosphorous, PCBs, and PCP. A large portion of the site apparently drains to the southwest corner which may allow for off-site migration of contamination in a southwesterly direction. Contamination of Dead Creek, adjacent to Site G, has been documented which suggests that Site G may be a contributing source of contamination. Additional studies to determine hydrogeologic connection between Site G and Dead Creek are to be included in the ongoing RI/FS.

5.0 RECOMMENDATIONS

Due to the threat of direct exposure to the hazardous substances documented on-site, the TAT recommends that site access be restricted immediately by installing a fence around the site. In addition, the TAT recommends that the site be capped upon completion of the air monitoring phase of IEPA's RI/FS to mitigate migration of contaminants off-site.

6.0 COSTS

The following cost estimates will be broken down into two phases. Phase 1 will outline the installation of a fence around the site to restrict access. Phase 2 will address the capping of the site.

6.1 Fencing of Site

Approximately 1500 feet of fencing would be installed to restrict access to the site. Actual construction of the fence will be sub-contracted and is estimated to require 5, ten-hour days. To avoid any digging on-site, the fence posts should be hydraulically driven.

Personnel

<u>Item</u>	<u>Days</u>	<u>Amount</u>
1 Response Manager @ \$58.40/hr	5	\$ 2,920.00
1 Per Diem @ \$66.15/day	5	330.75

	Subtotal	\$ 3,250.75

Equipment

<u>Item</u>	<u>Days</u>	<u>Amount</u>
1 Passenger Sedan @ \$55.00/day	5	\$ 275.00

	Subtotal	\$ 275.00

Subcontracted

<u>Item</u>	<u>Amount</u>
1500 Linear Feet of Chain Link Fence with 3-Strand Barbed Wire @ \$10.00/Linear Foot Installed	\$15,000.00
1 20-Foot Truck Gate	400.00
3% Sub-Contracted Fee	462.00

	Subtotal \$15,862.00

COST SUMMARY FOR FENCING

<u>Item</u>	<u>Amount</u>
Fencing	
Personnel	\$ 3,250.75
Equipment	275.00
Sub-Contractor	15,862.00

Subtotal	\$19,387.75
 TAT Cost	
5 days X 10 hrs/day	\$ 3,250.00
@ \$65.00/hr	
 EPA Cost	
5 days X 10 hrs/day	\$ 1,500.00
@ \$30.00/hr	

Subtotal	\$24,137.75
 15% Contingency	3,620.66

TOTAL	\$27,758.41
	OR
	\$28,000.00

6.2 Capping of Site

Site G will be capped with an impervious clay layer to inhibit the migration of contamination off-site. Capping the site will include: removal of trees and brush from area; installation of a 40 mil Gundle liner; installation of vents; and, capping the entire area with compacted clay. A grid venting system will be utilized, consisting of slotted 4 inch PVC pipe placed approximately 2 feet below the cap at 100 foot intervals. A total of fifteen vents will be installed. It is estimated that 45 ten-hour days will be required to complete the project.

Personnel

<u>Item</u>	<u>Days</u>	<u>Amount</u>
1 Response Manager	45	\$26,280.00
@ \$58.40/hr		

Personnel (Cont'd)

1 Field Clerk @ \$17.50/hr; \$24.00/hr OT	16	3,008.00
5 Cleanup Technicians @ \$25.70/hr; \$35.10/hr OT	16	22,064.00
2 Equipment Operators @ \$31.00/hr; \$42.10/hr OT	16	10,630.40
1 Per Diem @ \$66.15/day ea.	45	2,976.75
8 Per Diem @ \$66.15/day ea.	16	8,467.20

	Subtotal	\$73,426.35

Equipment

<u>Item</u>	<u>Days</u>	<u>Amount</u>
1 Decontamination Pad @ \$38.00/day	45	\$ 1,710.00
1 HP/HW Laser Washer @ \$176.00/day	45	7,920.00
2 Front End Loader @ \$448.00/day ea.	16	14,336.00
1 Bush Hog @ \$500.00/day	3	1,500.00
3 Chain Saws @ \$50.00/day	3	450.00
2 Sets of Hand Tools @ \$11.00/day	16	352.00
1 Decontamination Trailer @ \$326.00/day	45	14,670.00
1 Office Trailer @ \$75.00/day	45	3,375.00
1 Sheeps Foot Roller w/10-Foot Blade @ \$400.00/day	13	5,200.00

Equipment (Cont'd)

7 Level C Protection @ \$62.00/day	16	6,944.00
1 Passenger Sedan @ \$55.00/day	45	2,475.00
1 Passenger Van @ \$71.00/day	16	1,136.00
1 Pick-up Truck @ \$62.00/day	16	992.00

	Subtotal	\$61,060.00

Materials

<u>Item</u>	<u>Amount</u>
45 Feet of 4 inch PVC Pipe @ \$.80/Ft.	\$ 36.00
218,000 sq.ft. of 40 mil Gundle Liner @ \$1.00/sq.ft. Installed	218,000.00
8,000 cu.yd. of Clay @ \$10.00/cu.yd. Delivered	80,000.00
Miscellaneous	25.00
3% ODC on Materials	8,941.83

	Subtotal \$307,002.83

SUMMARY OF COST FOR CAPPING OF SITE

<u>Item</u>	<u>Amount</u>
Capping of Site	
Personnel	\$ 73,426.35
Equipment	61,060.00
Materials	307,002.83

Subtotal	\$441,489.18
 TAT Cost	
45 days X 10 hrs/day	\$ 29,250.00
@ \$65.00/hr	
 EPA Cost	
45 days X 10 hrs/day	13,500.00
@ \$30.00/hr	

Subtotal	\$484,239.19
 15% Contingency	72,635.88

TOTAL	\$556,875.06
	OR
	\$557,000.00

SUMMARY OF TOTAL PROJECT COST

<u>Item</u>	<u>Amount</u>
Fencing of Site	\$ 28,000.00
Capping of Site	557,000.00

TOTAL COST	\$585,000.00



Photograph #5
 Dead Creek-Site G, Sauget, Illinois.
 Oily pit in northeast corner of site.
 Photographer: Nick Longo
 Witness: Jeff Binkley *JB*
 Date: March 4, 1987
 Time: 0755



Photograph #6
 Dead Creek-Site G, Sauget, Illinois.
 Eastern boundry of site. Dead Creek is within
 the fenced area to the left of the picture.
 Photographer: Nick Longo
 Witness: Jeff Binkley *JB*
 Date: March 4, 1987
 Time: 0800



Photograph #7

Dead Creek-Site G, Sauget, Illinois.

Non-hazardous debris scattered on surface along
Queenie Avenue.

Photographer: Nick Longo

Witness: Jeff Binkley *JB*

Date: March 4, 1987

Time: 0805



Photograph #1

Dead Creek-Site G, Sauget, Illinois.
Northern edge of site, bordered by Queeny
Avenue.

Photographer: Nick Longo
Witness: Jeff Binkley *JB*
Date: March 4, 1987
Time: 0735



Photograph #2

Dead Creek-Site G, Sauget, Illinois.
Drums strewn about surface near center of site.

Photographer: Nick Longo
Witness: Jeff Binkley *JB*
Date: March 4, 1987
Time: 0740



Photograph #3
 Dead Creek-Site G, Sauget, Illinois.
 Western portion of site. Location
 of sample #2.
 Photographer: Nick Longo
 Witness: Jeff Binkley *JB*
 Date: March 4, 1987
 Time: 0745



Photograph #4
 Dead Creek-Site G, Sauget, Illinois.
 Oily pit in north central portion of site.
 Location of sample #1.
 Photographer: Nick Longo
 Witness: Jeff Binkley *JB*
 Date: March 4, 1987
 Time: 0750